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A *Haplospiza* finch in western México; the lessons of an enigma

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Haplospiza is a small, mainly South American genus generally assigned to Emberizinae (if that subfamily is really distinct from *Fringilla*). One of these obscurely coloured, rather small finches, *H. unicolor* (supposedly monotypic), ranges from eastern Brazil south to northeasternmost Argentina, etc. The other, *H. (Spodiornis) rustica*, is the more northern (and western) species. It inhabits the Andes, east to Venezuela, reappearing (disjunctly and very locally) from western Panamá north and west to southernmost México near the Guatemalan border, with one old report farther north. Here it is notoriously difficult to find; the 3 El Salvador specimens "suggest that the species is at best a rare resident of the northern cordillera, and possibly no more than a vagrant" (Thurber *et al.* 1987). But no known population could yield such vagrants: in Honduras it is known from 2 specimens, from one locality (Monroe 1968); in Nicaragua from 1 (Martínez-Sánchez 1989); while it remains unreported from Guatemala (Land 1970). The "irregular, perhaps nomadic, seasonal movements" in Costa Rica (Stiles & Skutch 1989) surely do not reach or cross the Nicaraguan lowlands. Even in Costa Rica it is "Rare or very local", and it was never found there in the explorations of Carriker or of Slud (1964). There are hardly any accounts of its being seen in any numbers (Stiles & Hespeneheide 1972). Wetmore *et al.* (1984: 582) aptly conclude: "Almost nothing is known of this species."

Well north of the Guatemalan border, there has long been an enigmatic record: the type of *H. r. uniformis* Sclater & Salvin, taken by R. Montes de Oca, supposedly at Xalapa, Veracruz. But Chapman (1898: 17) found that Montes de Oca's "Jalapa" meant little more than the state of Veracruz. Even this seemed rather dubious; no one else ever

saw a *Haplospiza* in Veracruz, while Montes de Oca was once naturalist on the Mexican-Guatemalan border commission (Ferrari-Pérez 1886). But even if this was before he sent the type to Britain, we know of no other Chiapas birds labelled by him "Jalapa"; and it seems most unlikely that the only bird he took there would be such an extreme rarity. (See also section on the races of *H. rustica*, below.)

Western México, including Michoacán, is of course still farther from Central America, and more distinct faunally. Here, in recent years, F. Méndez G. and his students at the Universidad Michoacana de San Nicolás de Hidalgo have been conducting ecological studies and explorations. For her thesis, Barajas surveyed a slope that included a ranch at El Temazcal, 27 km east-southeast of Morelia at 2190 m altitude. The original pine-oak woods is now very perturbed; few trees remain, and the present vegetation is not unusual. Here, in the lower edge of a net set near ground-level by an unused, dry irrigation ditch on the hillside, 19 August 1982, she caught an obscure, streaked female finch. To our amazement, it proved to be a *Haplospiza*!

Continued efforts by F.C.B.L., and others at times, have failed to find any more *Haplospiza* anywhere in the vicinity. It remains the only record west of the far distant, biologically different, Isthmus of Tehuantepec.

Ecology

Wetmore *et al.*'s conclusion that "Almost nothing is known" summarizes *H. rustica*'s ecology well. Indeed, the extremely limited number of observations suggests that its preferred habitat (if uniform) may still be undiscovered. The Michoacán habitat comes nearest that on Cerro de la Muerte, Costa Rica, where one was netted (also in late August) "in thick, scrubby second growth in an area of partly-cleared oak forest . . . No other *Spodiornis* was seen in the area, and the bird was probably a wandering individual" (Stiles & Hespeneheide 1972). But the Michoacán habitat is more open and less scrubby (and wooded); while most evidence seems to point to a normal habitat at the edge of cloud forest.

Some hard-to-find tropical birds are seldom seen outside of bamboo thickets. But bamboo is absent here; the only vegetation at all resembling a bamboo thicket is a small patch of woody *Lasiacis nigra* (Paniaceae) at "El Salto", 1 km east-northeast of the El Temazcal ranch at 2240 m altitude. Here there persist traces of cloud forest, with *Clethra*, *Cornus*, and *Oreopanax* spp. (Bosque Mesófilo de Montaña; Takaki & Ibarra 1981). This type of vegetation is not widespread in the region, but is found in some *cañadas* (draws or canyons) mixed with oak-conifer woods, forming mosaics (Soto 1987).

Yet farther east in Pacific México, toward Central America, where cloud forest is better developed (southern Guerrero and even in Oaxaca; Binford 1989), *Haplospiza* remains undetected. In any case, its presence in unbroken cloud forest is unlikely. It apparently feeds entirely on vegetable matter (M. A. Ramos, notes; Stiles & Hespeneheide 1972), especially grass seeds when available, near or at

ground level. These would be scarcer within a closed forest than at openings.

At most times, these elusive birds must be extremely difficult to flush or see. The concentration of most records in August to November suggests post-breeding dispersal, as noted by Stiles & Skutch, or dispersal of young. But this is evidently not long-range; see section on the races of *H. rustica*, below.

Taxonomy

In the course of centuries, *Haplospiza*'s habitat is presumably very unstable. For considering its vast range and widely disjunct populations, *H. rustica* shows surprisingly little geographic variation. Principally, the bill becomes smaller, more slender, southward. (As in most highland birds, each main variation occurs at a major isthmus.)

At higher taxonomic levels, we see no reason to doubt that all its forms are conspecific, nor that they are congeneric with *H. unicolor*. Hellmayr (1938) retained for them the genus *Spodiornis* because of *H. unicolor*'s "thicker, basally more inflated bill and more pointed wing"—evidently a *lapsus*. He apparently overlooked Salvin & Godman's finding (quoted by Ridgway 1901) that the bill of *H. r. uniformis* is larger (not smaller) than *unicolor*'s; and he saw only one Middle American bird.

Presumably Hellmayr meant *H. unicolor*'s *less* pointed wing. Or perhaps he read Ridgway (1901) over-hastily. Ridgway evidently saw no *H. rustica* at all; preceding his account of *H. [r.] uniformis*, his generic description of *Haplospiza* is stated to be based on *H. unicolor*, whose wing was "rounded (seventh and sixth primaries longest, ninth shorter than fourth)". This difference is usually slight (except in the Berlin Museum type). Indeed, an anomalous "Brazil" ♂ (BM 57.11—28.232, *ex* Gould) has primary no. 9 almost as long as 5 (and 8 equal to, or a bit longer than, 6). Another old "Brazil" bird (MCZ 76789 [♀], *ex* Lafresnaye) also has the wings unusually pointed. (For acronyms here and below, see Acknowledgements.)

But in most *H. rustica* (including the Berlin Museum type), primary 9 is decidedly longer than 5, while 8 is (usually slightly) longer than 6. Thus "*Spodiornis*" has the more pointed wing, which is also longer: in ♂ chord >66 mm, *vs* <64 in most *unicolor* measured (once 66.5; USNM). The tail is narrower, less rounded, and more definitely notched in *rustica*; the central rectrices are 1–3 mm shorter than the longest.

The single definitely juvenile *unicolor* seen (FMNH) is pale below, mostly rather whitish, with olive-tinged wings and little rufescence. With so many known differences, we doubt that *unicolor* is "Possibly conspecific with *H. rustica*" (Paynter 1970).

The races of H. rustica

As is usual when males are bright or uniformly coloured, racial variation in colour is largely or entirely limited to females (and presumably unworn juveniles, when available).

Our ♀ gives the first hint of the colours of ♀ *uniformis*—if indeed of that race, as we must perforce suppose; its bill is very similar to the type's, carefully sketched for us by P. R. Colston. These two have the longest, most swollen bills, confirming the type's northern origin.

Should all the unknown, far-northern populations prove identical (a risky assumption), ♀ *uniformis* would have the most definite dark streaking on the back, extending onto the lower back. Other differences may be due to fresh plumage, recent collection, and/or individual variation. Its wing and tail are duskier than other ♀♀, and the back rather dark. Though less rufescent than Central America ♀♀, below and above—especially the rump, wing-bars and -edgings—it is more rufescent throughout than an El Triunfo, Chiapas, ♀ [INIREB] of almost identical date. (This is not due to “foxing”; F.C.B.L. used only corn meal and, later, arsenic powder in preparing the skin.) Both these 1982 ♀♀ have the longest row of under secondary-coverts grey, while in ♀♀ examined from Volcán Tacaná, on the Guatemalan border (MICH), to Costa Rica, they are white.

The range of *uniformis* was extended, long ago, to Chiapas (Brodkorb 1943, Miller & Moore 1954). This was a logical supposition; *Haplospiza* was unknown between México and Costa Rica, and *barrilesensis* of Panamá was considered dubiously separable from *uniformis* (its only character being supposedly smaller size). But Chiapas birds now seem no larger than Costa Rican in any respect. They do not have the long wing of ♂ *uniformis* (type), nor the large body of our ♀ (which unfortunately has neither weight nor body skeleton).

On the other side of the species' range, South American *rustica* have the bill small and slender. ♀♀ are darker on the rump than Mexican ♀♀ and duller (less brownish) on the longer upper tail-coverts. Only in fresh plumage do they show any rufescence on the tertials. They are less rufescent below than true *barrilesensis*, at least on the flanks.

Central American birds thus differ from other races in bill size, and from *uniformis* in smaller size (?) and presumably (Michoacán specimen) less definitely streaked ♀. Among themselves they are uniform in size and bill. But eventually, we believe, *barrilesensis* must be restricted to Costa Rica and western Panamá. Other ♀♀ (Chiapas, Honduras, etc.) are less reddish on the back, with more of a hint of dark streaking (in this approaching our ♀); they are also less rufescent on the crissum. But the chest is usually more rufescent, if the difference is not seasonal. The throat is slightly more streaked. (They are tawnier below than South American ♀♀, with the chest streaks a bit broader except for a South American juvenile.)

Though apparently distinctly smaller than *uniformis* (Fig. 1), this difference is poorly reflected in the appendages. Only the wings of ♂♂ are definitely smaller, and even these would probably overlap in a series.

The need of colour specifications

Obviously, cases like *Haplospiza* present extreme handicaps to an understanding of avian biodiversity. With a mere handful of specimens,

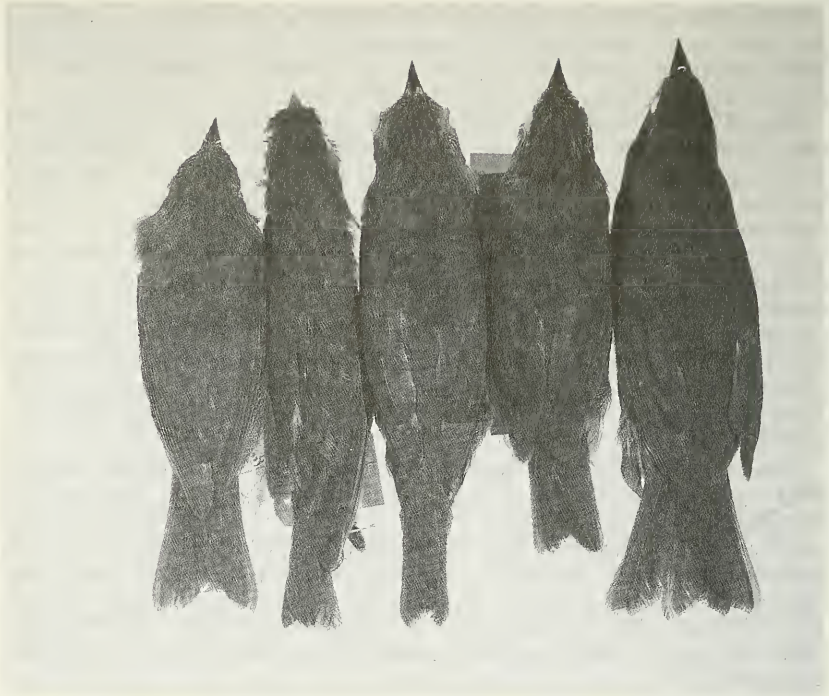


Figure 1. Comparison of our ♀ (far right) to other Middle American ♀♀; right to left: Volcán Tacaná, Chiapas (MICH "juv.", 21 March 1939); "Volcán Tacaná, Chiapas" (RTM); Montecristo, Santa Ana, El Salvador (AMNH, 26 November 1975); and southern Costa Rica (Talamanca Cordillera, AMNH, 4 May 1967).

mostly of unknown age, plumage, breeding condition (or at times even sex, when young), from far-scattered places, the meaning of the observed variations is uncertain. Some may even be due to wear and fading in life, or to post-mortem changes; rarely do we know what preservatives were used, or how carefully.

Widespread terrestrial birds (unless highly migratory) commonly vary geographically in size and colour, often dramatically: *Colinus virginianus*, *Motacilla* spp., *Ammodramus sandwichensis*, *Melospiza melodia*, etc. With elusive species like *Haplospiza*, our best chance to eventually understand their colour variations would be by promptly comparing any we may capture to detailed colour standards—just as we must compare, and preferably paint, species that fade rapidly after death (see for example Phillips & Rook 1965 and Phillips 1991 on *Catharus dryas*). We cannot safely foresee the amount of change. (Less obvious changes probably require direct comparison to fresh material, as shown for Pacific populations of *Vireo huttoni* by Rea, in Phillips 1991: 183–186.)

Our ♀'s rump, 2 years after collecting, was a slightly paled Olive of Ridgway (1912) (copy in Division of Birds, USNM). From near 30 Olive of Smithe (1975, 1981), it verged toward 29 Brownish Olive, or perhaps a paled 129 Dark Brownish Olive. (9 years after collecting, it is closest to 49 Greenish Olive but browner, *vide* M. R. Browning.) Compared to Munsell (1970), it was a deepened (2.5 Y [hue] × 5.0 Y) 4/4. The ground colour of the lower (adjacent) back was a deep, dulled 10.0 YR 4/4; the crown was still sootier, even the medial central part; the forehead was duller, less rufescent.

The back, in Ridgway, was a reddened Saccardo's Umber. (Nothing in Smithe was at all close; the back posteriorly was a bit more rufescent than mid-back, which was decidedly duller than 121A Prout's Brown.)

The flanks, on the Munsell scale, varied around a rather paled 4/2 (10.0 YR). The ground colour of the chest was a bit duller, paler than Central American ♀♀ but brighter than those from Perú, more washed with a dulled yYR 8/6 (=17.5) × Hue 7.5 8/6. Compared to Ridgway, they were dulled (greyed) Saccardo's Umber, while the chest was washed with a decidedly dulled Ochraceous Buff (× Chamois?); in Smithe this wash was between 223C Sayal Brown and 223D Tawny Olive.

Surely we cannot expect such detailed data to be pulished normally, on less spectacular range extensions or species one might collect for comparison (or find, recently taken, in some collection). But may we suggest the establishment of some colour centre for agreed-on difficult species, or new ones? Surely *Haplospiza* should be one of these. Thus we might eventually pay more than lip service to biodiversity, studying nature as it is (if habitats persist) rather than museum relics of uncertain value.

While detailed colours of soft parts (iris, mouth, bill, etc.) should also be recorded, in *Haplospiza* we see little evidence of geographic variation. Monroe (1968) suggested that "the Mexican race, *S. r. uniformis* . . . has a light-coloured lower mandible", but that this may be age variation. (Which age is dark, and which race inhabits Honduras, were never stated.) But *contra* Monroe, our ♀ had, in 1984, a distinctly blacker-grey mandible than less recent (1960s, 1970s) Central and South American ♂♂ and ♀♀. We also note the "pale horn" mandible of a Bolivian ♂ (FMNH) (A [♀] *unicolor*, MCZ, had mandible yellow-whitish below, its sides black.) Young birds and non-breeders may be darker, and bills may fade.

Skin and skeletal measurements

Despite the evidently large size of our ♀ (Fig. 1), available skin measurements of Mexican and Central American *Haplospiza* show mainly individual variation (Table 1). Presumably skeletons would be more instructive. In their absence, we must at least strive for standardized, reliable skin measurements, as little influenced as possible by the taker. Small measurements (bill, feet) in small birds must vary by a considerable % with different techniques and

TABLE 1
Measurements (mm) of *Haplospiza rustica*

Area (museum)	Wing chord	Tail	Flesh meas.: length extent	Bill at nostril: width depth	Wt. (g)
♀♀					
Michoacán (UMSNH) im. (?)	68.6	45.5	131	5.2	—
Chiapas (El Triunfo, INIREB)	68	45	121	5.2	16
Chiapas (Vol. Tacaná, MICH) juv.	68	46.5	—	5.3	—
same [?] (RTM)	65.7	45	—	4.9	—
El Salvador (AMNH)	67.5	45	—	5.1	—
same ¹	70	44	130	—	17
Costa Rica (Cachi, MCZ) [im.(?)]	67.6	45.9	—	—	—
Costa Rica (Talamanca Cordillera, AMNH)	69.3[+?]	47.7	—	5.0	6.7(—?)
♂♂					
<i>uniformis</i> (type, BM)	74	49.5	—	5.0 ²	—
Chiapas (El Triunfo, INIREB) im.	70.3	45.5	135	5.2	17
Honduras (RTM), 2♂	68.7, 72.2	47.3, 47.8	—	—	—
Cost Rica (vol. Poás, MVZ) [ad.?] rear sk. windows	68.4	48.2	—	—	15.4
		(1 rectrix 50.1)	—	—	—
Costa Rica (Navarro, AMNH)	71.7	48	—	4.9	—
		(1 rectrix 50.5)	—	—	—
Costa Rica (Cachi, MCZ) [juv.]	69.9	47.4[+]	—	—	—
Panamá (Chiriquí, AMNH)	72	50.3	117	5.0	—
<i>idem</i> (<i>idem</i>) im.	70.5	47.5	120	—	16.7
<i>idem</i> (Chiriquí, USNM) [im.]	70.3	49.5	—	—	—
		[+? 1 central rectrix missing]	—	—	—

Notes. Skin measurements by A.R.P. except as noted. A.R.P.'s measurements are averages, when the 2 wings differed or a specimen was measured on 2 occasions with slightly different results.

1 Measured by Thurber [*et al.*?]

2 Measured by P.R. Colston; bill forced shut

instruments, individual judgment of exact end-points, and position and curvature of dried toes (and proper closing of bills by preparators).

Larger measurements, too, have pitfalls. Tails may be shoved forward under the skin or lack a central rectrix (and the point of insertion is often hard to ascertain). Occasionally post-mortem drying may lengthen this measurement by 1 or 1.5 mm and shorten the wing.

Wing measurements vary chiefly with the technique used. The arc or flat wing depends on the pressures applied (and the completeness of drying). The chord should be reliable, if wings were not jammed forward into folds of skin, or distorted, shot, moulting, etc. But authors often fail to specify their methods, and may even mix them. Thus Miller & Moore (1954) obviously measured the chord, but compared their Chiapas ♀ ("64.7") to Brodkorb's flattened "69 mm".

Nor are measurements always reliable. We hardly suppose that Moore quietly changed his method in reporting (Moore & Medina 1957) wings of the 2 Honduras ♂♂ as 73.6 and 71.2 mm. While Monroe (1968) gave these as smaller (72.5, 69.0), this agrees only with A.R.P.'s measurements of the longer wing; in each case the other wing was still shorter, while Monroe's tail measurements (43.7, 45.6) are decidedly shorter than A.R.P.'s.

Reported measurements of a single bird's wing and tail may thus vary about 7.5% in Middle American *Haplospiza*. While this figure is seldom approached, caution is warranted. Errors in other cases have been still greater: two surprisingly long-winged Hermit Thrushes *Catharus guttatus* ("117, 121" mm; Miller 1955) were re-measured, at A.R.P.'s request, as 101.3 mm and 101.4 mm (Phillips 1991: 77; see also pp. 79–80, 86).

Obviously, the first step before taking a measurement should be to make sure that it is valid. But current bio-statistics ignores this. Thus the first specimen of a supposedly new swift appears as a female with a very short wing and tail in Navarro *et al.* 1992: 59; but A.R.P. had labelled it (10 July 1979) "♀ (?), im. ovary (?)", with all rectrices pin-feathers, wings in moult, and both length in flesh and extent (wingspan) therefore followed by a "[+]" sign. Clearly no one read the label or examined the feathers; but they gave full data on coefficients of variation, bootstrapped distributions, etc.

But standard skin measurements, even of full-grown *Haplospiza* etc., tell us less than the whole bird (weighed and uniformly measured in the flesh, before or after rigor mortis) and skeletal material. All this was neglected and discarded in the past, even in the case of the clearly unique type of *Edithornis sylvestris* Mayr (see Greenway 1973: 210, 316).

For comparability (repeatability), A.R.P. advocates and uses extreme measurements in the flesh, stretching the bird as far as possible without disarticulating any bones. Assuredly this seems ugly and unnatural, but we are scientists, not artists; variations due to individual judgments must be eliminated if possible in the study of biodiversity.

The extreme length is best read with the bird on its back on the ruler. But extent (wingspan) is easier to determine with the breast down. The primaries must retain their normal shape, without pressure; and the

wing must not be flexed down toward the ruler, or back toward the body or tail.

This can be regular procedure; it is not unduly time-consuming or difficult. We need not await extraordinary opportunities to measure and preserve what we can; when in doubt, save—even unprepossessing ♀ finches. If they prove common, we have lost nothing.

The riddles of *Haplospiza*

In most birds, such an extraordinary extension of range would be immediately suspect. But in *Haplospiza* such anomalous records seem almost routine. Human transport, storms, or hurricanes cannot account for the 2 far-northern records (accepting Montes de Oca's). At the opposite end, there are now 3 reports of supposedly accidental *H. unicolor* in Buenos Aires province, Argentina (Di Giacomo & Di Giacomo 1991). In El Salvador, as cited above, it was suspected of being a vagrant only; yet the 3 El Salvador records exceed those of any nearby country. Outside of Costa Rica, only 2 Middle American areas have more than 3 records: adjacent western Panamá (Chiriquí) and the Sierra Madre de Chiapas, extreme southeastern México. And in Panamá, once more, there is an anomalous out-of-range specimen from the province of Panamá (Wetmore *et al.* 1984). (We omit here the unique type of *H. rustica arcana* [Wetmore & Phelps, Jr.] from Bolívar, Venezuela; ornithologists are even more "accidental" on Cerro Chimantá-tepui than *Haplospiza*.)

Normally, *Haplospiza* must be extraordinarily adept at hiding and avoiding the need to fly when approached. A.R.P. once witnessed such behaviour in an obviously different, undescribed Mexican bird he nearly stepped on; he could not tramp it up again in a small sloping opening (of probably ½ acre or less) with grass in rather small clumps, on a wooded hillside. Small wonder the nests, eggs, and small young of *Haplospiza* remain undescribed.

Besides the extraordinary difficulty of finding most *Haplospiza*, the variation in wing-formula is quite unexpected, if indeed all those in Brazil are of the same species and race.

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On the validity of *Anumbius annumbi machrisi* Stager, 1959 (Furnariidae, Aves)

by *Fernando Costa Straube*

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The Firewood-gatherer *Anumbius annumbi* is a widely distributed species in central and southern South America. It occurs from the Brazilian states of Tocantins, Goiás and Minas Gerais south to Rio Grande do Sul, as well as into Uruguay and eastern Argentina (Pinto 1978).

Three specimens of this species were collected near São João da Aliança (now in the state of Tocantins) and are the basis of a form that appeared to be a new subspecies *A. a. machrisi*, originally described by Stager (1959). This form was distinguished from the nominate race by the reduced number of black spots around the periphery of the white throat and distinctive streaking on the mantle and crown. The validity of this subspecies has been questioned (Pinto 1978, Vaurie 1980), but no detailed studies have been made.

I analysed 52 specimens of *A. annumbi* deposited in the ornithological collections of Museu de História Natural "Capão da Imbuia" (Curitiba), Museu Nacional (Rio de Janeiro, including the holotype of *A. a. machrisi* MN-32291), and Museu Paraense Emílio Goeldi (Belém). The specimens represent the entire range of the species and were collected from Tocantins, Goiás, Mato Grosso, Minas Gerais, São Paulo, Paraná, Santa Catarina, Rio Grande do Sul (Brazil) and Buenos Aires (Argentina).

Vaurie (1980) examined a series of 152 specimens and concluded that the two paratypes of *A. a. machrisi* "differ from birds from the other populations of the species in having the black spots surrounding the throat more reduced in number and size" and that "the other characters mentioned for this new form fall, however, within the range of individual variation of the other populations". I agree with Vaurie, but the pattern of gular spotting is also highly variable.

I examined a series of 21 specimens from Paraná (southern Brazil) and found that birds varied in three ways with respect to throat